

Prevalence of Preauricular Sinus among Nigerians

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Abstract: Preauricular Sinuses are congenital ear malformation noted on routine clinical examinations of individual most of whom are not bothered except when they are symptomatic. The study is to determine the prevalence of Preauricular Sinus among Nigerians attending the ear, nose and throat clinic of the University of Ilorin Teaching Hospital (UITH), Ilorin, Nigeria. Randomly selected patients attending the ENT clinic of U.I.T.H Ilorin were examined for Preauricular Sinuses and information taken by administering questionnaires. They had audiological evaluations. The study design is analytical descriptive survey. Six hundred patients were examined and only 56 of them had preauricular sinus (9.3%). The age range was 1 to 45 years. The commonest age group was 18-30 years followed by 1-18 years. Males were more commonly affected with a male/female ratio of 1.3 to 1.0. The left ear was mostly affected (57%), right ear (36%) and was bilateral in (7%). The sinus were claimed to have been noticed shortly after birth (86%), after 10 years (11%) and never noticed (4%). Presence in other family member in 25%, absent in 21% and never noticed in 54%. Sinus infections of 3-5 episodes in a year were observed in only 7% and no infection in 93%. Complaints of discharge were present in only 11%, hearing loss in only 4%. None had renal complaints. Preauricular sinus repair was done in only 4 patients (7%). The prevalence of Preauricular sinus among Nigerians in Ilorin is 9.3% especially, among males on the left side. The condition is usually congenital, present at birth and might become apparent later in life. Common complications are infections and hearing loss but none had renal complications. The condition though rare should be treated surgically promptly once it is symptomatic. High index of suspicion of individuals with Preauricular sinus to monitor for infections, hearing loss and possible renal problem.

Key words: Preauricular sinus, infection, congenital, left side

INTRODUCTION

Preauricular sinuses are common congenital malformation noticed usually on routine clinical examination as a small pit adjacent to the pinna (Leung and Rebson, 1990). They are believed to arise from incomplete fusion of 6 hillocks located on the first 2 branchial arches (Chami and Apesos, 1989; Ellies *et al.*, 1998). Most people with the malformations are asymptomatic with only a third of persons being aware of it (O'Mara and Guaresco, 1999; Lau, 1983).

They are usually asymptomatic and can be of cosmetic importance (O'Mara and Guaresco, 1999; Lau, 1983; Reffensperger, 1990). It may be associated with deafness and renal malformations (Moore and Persaud, 1998). It is usually bilateral and tends to be inherited, occasionally could be complicated by infections.

The incidence of Preauricular sinus in parts of Asia and Africa is estimated to be 4-10%, 1.6-2.5% Taiwan and 0.09% in the USA (Tsai and Tsai, 1993; Tan *et al.*, 2005). There is no documented incidence of prevalence of preauricular sinus among Nigerians. The study is aimed

at determining the incidence, association with hearing impairment among individuals attending the Otolaryngological clinic of the UITH, Ilorin, Nigeria.

MATERIALS AND METHODS

This prospective study was carried out among patients attending the Otolaryngological clinic of the UITH between January and August 2007. The study design is analytical descriptive survey. Information entered into the study profoma included: Demographic data, incidence and side affected by preauricular sinus, symptoms and complications noticed. Limitations were other patients with preauricular sinuses but attending other clinic would be missed out, some of the females on religious ground refused to open their ears for examinations.

RESULTS

Six hundred patients were examined over the study period and only 56 had preauricular sinus with an

Table 1: Age and sex distribution of the subjects

Age group	Frequency	(%)
1-18	9	32
18-30	11	39
30-45	5	18
45 and above	3	11
Total	28	100
Sex		
Male	16	56
Female	12	43

Table 2: Onset of symptoms

Affected ear	Frequency	(%)
Right	10	36
Left	16	57
Both	2	7
Total	28	100

Table 3: Side of ear affected

Present	Frequency	(%)
From birth	24	86
After 10 years	3	11
Never noticed	1	4
Total	28	100

incidence of 9.3%. The age range was 1-45 years. The commonest age group affected was 18-30 years, followed by 1-18 years. The male/female ratio was 1.3-1.0 (Table 1).

The left ear were mostly affected (57%), right ear (36%) and was bilateral in 7% (Table 2) The sinus was noticed mostly from birth in 86%, after 10 years in 11% and was never noticed in 4% of the individual affected (Table 3).

Only 3 (14%) complained of infection of the sinus and only 3 (11%) had hearing loss. However, only 2 (7%) with infected sinuses had surgical excision of the sinus. None had renal symptoms.

DISCUSSION

Preauricular sinus is believed to arise because of incomplete fusion of 6 auditory hillocks around the 2 first branchial arches (Chami and Apesos, 1989; Ellies *et al.*, 1998). It occurs either sporadically or inheritable (Chami and Apesos, 1989) usually, a small asymptomatic pit anterior to the helix of the external ear unless infected (Chami and Apesos, 1989).

The overall incidence in this survey is similar to findings in Asia and part of Africa from previous series (Tan *et al.*, 2005).

However, it is much higher than figures from Europe and the American (Tan *et al.*, 2005; Ewing, 1946). This might be because it is a hospital-based study and also not all patient attending all the outpatient clinics were recruited.

The incidence of preauricular sinus of 9.3% is within the range of 1-10% find in the series of Scheinfeld among Africans and Asians (Paulozzy and Lary, 1999).

However, it is much higher than the series in the USA (0.09%), Taiwan (1.6-2.5%) and Scotland (0.06%) (Tan *et al.*, 2005). This is a hospital (clinic) bases study.

Leung and Rebson (1990) reported women and men are affected equally however in our series males were more affected, this possibly could be due to racial differences.

The condition is usually present at birth as over four-fifth noticed it with only 4% claiming they did not notice. This is consistent with Moore and Persand and Scheiffeld series (Leung and Rebson, 1990; Tsai and Tsai, 1993).

The laterality of the sinus in Paulozzi and Lary series were (Kugelman *et al.*, 1997) mostly found on the right side but in our series, they were mostly on the left side, This might be due to small number of this survey or geographical or ethnic differences.

Paulozzy and Lary (1999) reported that preauricular sinus are inherital and O' Mara and Guarisco (1999), Kugelman *et al.* (1997) and Zou *et al.* (2003) reported the penetrance of incomplete autosomal dominance. Zou *et al.* (2003) and Larser (1993) mapped a possible locus for congenital preauricular fistula to chromosomes 8q 11. 1-713.3. This shows the condition is inheritable as found in our series.

CONCLUSION

In conclusion, preauricular sinus incidence covers birth pediatric and adult populations with condition being present since birth with a prevalence rate 9.3% especially on the left side. They are mostly asymptomatic with commonest complications being recurrent infections with possible hearing impairment. When infected the treatment is administration of antibiotics, incision and drainage when abscess arises but when it persists definitive surgical treatment of wide local excision gives the most favourable outcome. In individual with preauricular sinuses, associated congenital (syndromes) anomalies should be sought out.

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